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MICRO-REGIONAL PLANNING FOR TRANSPORT MANAGEMENT IN FAIZABAD DISTRICT (INDIA)

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ABSTRACT: Transport structure in the Faizabad district is comprised mainly of railways and roads. Roads are more important than other modes of intra-regional transportation especially on micro-level because of their high flexibility and low expenditure involved in their construction. Thus viewing the utilities of roads for intensive rural transformation, here planning has been suggested to be taken only for road development in the region. In order to root out the deficiency in existing transport system and thereby to achieve the over-all development of the district, a seventeen year transport planning were worked out and proposed to be implemented in two phases of 5 and 12 year duration i. e., by 1983 and 1995 (taking 1978 as the base year). In designing road connectivity, several criteria were adopted taking into account the standards set by the Planning Commission The schematic linkage plans were prepared suggesting a number of measures for qualitative improvements of various road sections as well as proposing some new roads.

The system of transport exercises tremendous influence over the structure of economy of a region by virtue of providing major guidelines for the orientation of socio-economic activities. Transport network in a region is analogous to the circulation system in a human body. As such, inadequate or poor transport arteries do not initiate any sort of development, rather they vitiate it. An efficient circulation system serves as effective tool for the utilization of regional resources and affects the mobility of traffic – of people goods and services.

In order to achieve the said objectives it essentially needs to have a sound and rational development planning for transport network. However, without taking into account the present level of transport development, it would not be possible to provide any sound base for its planning. Hence, a brief account of the existing transportation system and associated problem of the district are also presented.

The Region and its Transport Structure

Faizabad district is one of the eastern districts of the State of Uttar Pradesh occupying a central position in Faizabad Division. It lies between latitudes 26°.9' and 26°. 50' N and longitudes 81°. 40' and 83°. 8' E. The shape of the district is almost a regular parellogram with a small projection on the north-east jutting into the district of Azamgarh.

The geographical area and population of the district Faizabad are reported to be 4,427 Sq. Km², and 19.27,281 persons respectively. of the total population 91.40 per cent were rural and 8.60 per cent urban. The spatial distribution of population is almost even throughout the district with a density of 430 persons per Km. (1971).

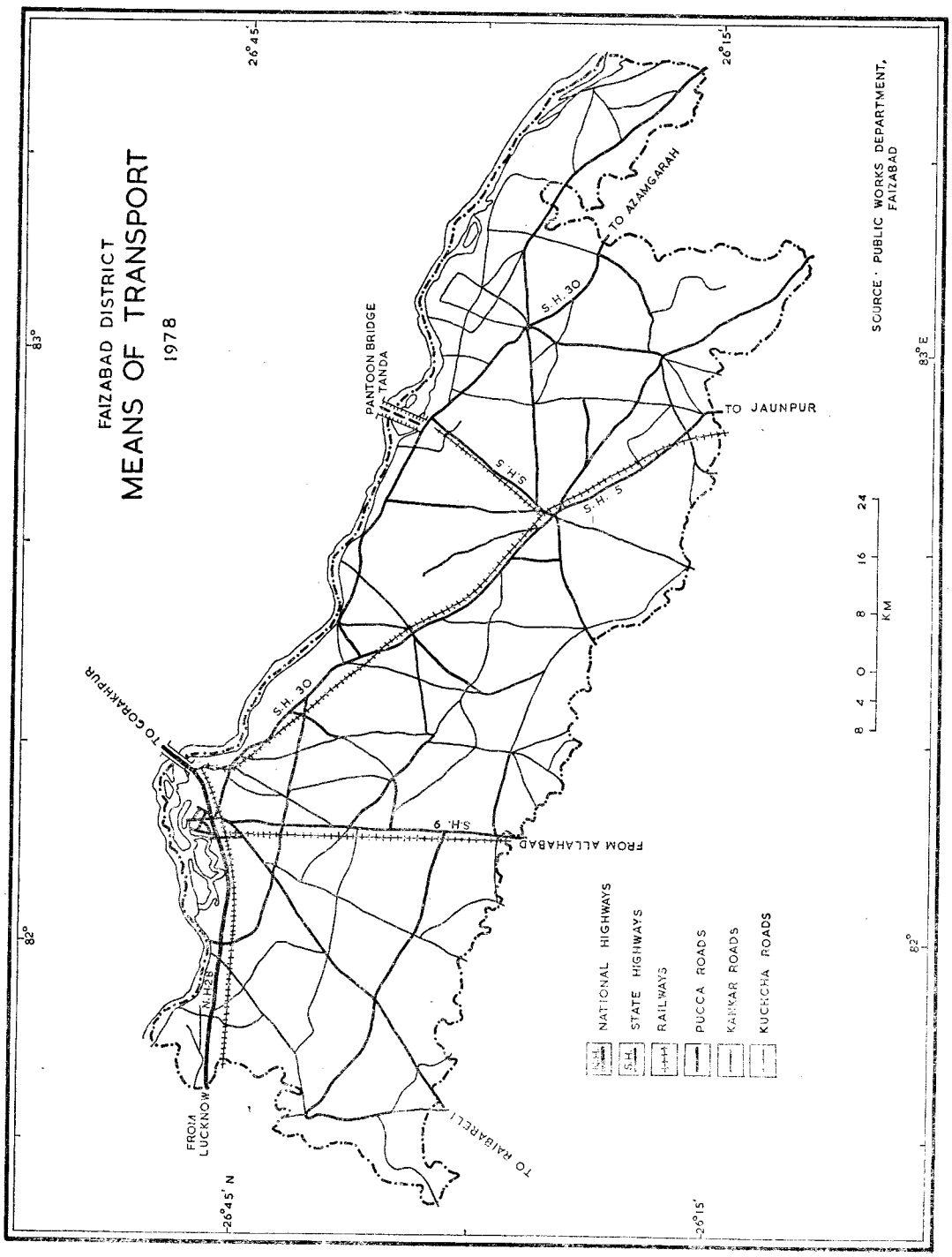
FAIZABAD DISTRICT
MEANS OF TRANSPORT
1978
SOURCE : PUBLIC WORKS DEPARTMENT, FAIZABAD
26°45'
26°15'
83°
82°
83°E
82°
26°45' N
26°15'
TO AZAMGARAH
S.H. 30
PANTOON BRIDGE TANDA
TO JAUNPUR
S.H. 5
S.H. 5
S.H. 30
TO GORAKHPUR
S.H. 9
FROM ALLAHABAD
N.H.28
FROM LUCKNOW
TO RAIBARELI
NATIONAL HIGHWAYS
STATE HIGHWAYS
RAILWAYS
PUCCA ROADS
KANKAR ROADS
KUCHCHA ROADS
8 4 0 8 16 24
KM

Fig. 1

The total urban area in the district is 66.8 km². Faizabad-cum-Ayodhya, Faizabad Cantt., Tanda, Jalalpure, Gosainganj and Bhadarsa are the urban areas of the district. The district has 18 rural community development blocks, 222 Nyaya Panchayats, 1844 Gaon Sabhas and 2800 revenue villages of which 147 are uninhabited.

Transport network in the district is composed mainly of railways and roads (Fig. 1). The district has a rail rout length of 161 Km. performing rail services as the backbone of transportation in the region. This cannot be said satisfactory when seen in respect to its population size. The State has a rail route length of 8,626 Km. of which only 1.87 per cent. lies in Faizabad district. The rail route density per 100 Km.² for the district was 3.67 Km. during 1976 whereas for the State and the country it was 2.93 and 1.83 Km. respectively. The relative figures per 100'000 population were 7.93, 9.25 and 10.49 Km. for the district, State and nation respectively. The district has 22 railway stations - 4 urban and the remaining rural. But on average, only 13.91 per cent villages are assessible to railway stations within a distance of 3 Km.

The district has a good network of roads and is directly connected with neighbouring areas. The total lenght of metalled roads in the district is 579-41 Km., thus for every 100 Km². the length of 'pucca' roads was 13.25 Km., (1976-77). The highways altogether constitute a route length of 238.57 Km- in the district of which 43.91 Km. roads came under the National Highway (No. 28), The State has 2,466 Km. nati onal and 8,273 Km. State highways of which 1.78 and 2.58 per cent lie in Faizabad district. Besides, the region has also number of district and village roads a providing intra-district connections of which 279 Km. are all weatherproof roads. The inland water transport has a considerable potential which may have proved to be one of the cheapest means of traffic especially freight though its present utilization is almost negligible. Ghaghra is the only navigable river throught the year for about 173 Km. though it has lost its importance due to the rapid develos ment of rail and road transport. Moreover, the inland transportation through Ghaghra has been stopped because of the closing of steamer services.

The district has two aerodromes one at Faizabod and the other near Akbarpur but presently they are not in operation and are gradually being damged.

Now, it can be concluded that water transport is very much unflexible as rivers provide facilties to very limited extent only to the adjoining territories. The scope of air transportation is very limited on account of high costs involved. The railways, though serve the pivotal role in transportation, connect only some major settlements of the region. Thus, the roads are the only alternatives to fill up the inaccessible gaps especially in remote rural interiors where most of the population resides. Roads are more important than other modes for intra-regional transportation especially on micro-level because of their high flexibility and low expenditure involved in constructing transport arteries. Thus viewing the utilities of roads for intensive rural development, planning has been done only for road network in the region in the present study. It is also note-worthy that the region is still controlled by the poor system of 'kuchcha' roads and hence they require special and intensive care.

Road Accessibility

Accessibility which is supposed to be the best indicator of the degree and efficiency of the transportation in a region, includes two factors—distance and time and it is in these contexts that accessibility is dealt with and measured. The concept of accessiblity by road is quite different from the railway accessibility. The railways connect only major or few centres while the road system being much more flexible can reach any point of the region linking the smallest

Table I

Road Accessibility Norms as Defined by Nagpur and Bombay Plans

Sl. No.	Description of area	Maximum distance of any village (Kms.)	
		From any road	From main road
1.	Nagpur Plan		
	(i) Agricultural Area	3.22	8.05
	(ii) Non-agricultural Area	8.05	32.10
2.	Bombay Plan		
	(i) Developed Agricultural Area	2.41	6.44
	(ii) Semi-developed Area	4.83	12.87
	(iii) Under-developed and Cultivable Area	8.05	19.31

Soure : National Institute of Community Development, Hyderabad.

consumer with the markets and providing a feeder system to other media of transport (Sen, 1975) Therefore, a high degree of accessibility is essential for socio-economic development of the study area.

Accessibility Norms

The Nagpur and Bombay plans prescribe the accessibility norms for road development as given in table I.

For the development of national transportation system, the Government has followed the above norms extensively as they suit to various areas of different characteristics. However, in the case of Faizabad district, accessibility standards set either by Nagpur or Bombay Plan have not been adopted because; (i) There is a vast difference in physico-socio-economic environments from one part of the country to the other even at a micro-level. (ii) Both the plans were prepared in the perspective of 10 to 20 years i. e., 1961-81 and thus, from the viewpoint of socio-economic development, they seem to be somewhat obsolete.

Hence, for a generally agricultural level plain and developing district Faizabad, the accessibility norms have been proposed as under :

1. Every settlement should be located at a maximum distance of 2 Kms. from any 'kuchcha' road, or

2 At a maximum distance of 4 Kms. from any metalled road.

On the basis of the above norms, the accessibility map for the district was drawn Block-wise accessible and inaccessible areas can be seen in table II.

Table II reveals that Masodha, Pura Jalapur, Baskhari and Ram Nagar development blocks are highly accessible. In general about 78.87 per cent. area of the district has been identified as accessible and the remaining 21.13 per cent as inaccessible. Accessibility of metalled roads show that 53.94 per cent. villages are located at a distance of more than 3 Km.

Road Density

The percentages of the area and population of Faizabad district compared to the state were 1.48 and 2.18 respectively during 1971 while the percentage of metalled roads during the year 1976 was only 1.49. In terms of road density, the district had 2.5 Km. of metalled roads and 9.6 Km. of 'kuchcha'

Table II

Block-wise Road Accessibility (1978) and Road Density (1976) in Faizabad District.

Planning Units	Area in Km²	Population (1971)	Accessible Area%	Road length in Kms	Road density Per 10,000 Population	Road density Per 100 Km²
1. Masodha	216	95,880	96.9	136.3	14.2	63
2. Sohawal	214	96,406	84.3	116.8	12.1	55
3. Pura	213.5	80,468	93.9	62.8	7.8	29
4. Maya	202	83,970	76.9	63.5	7.6	31
5. Amaniganj	229	84,508	55.7	80.4	9.5	35
6. Tarun	248	97,999	81.3	108.4	11.0	44
7. Milkipur	232	84,834	74.7	82.3	9.7	35
8. Bikapur	292	84,915	85.4	87.6	10.3	30
9. Harintinganj	173	72,148	59.8	93.7	13.0	54
10. Bhiti	214	79,576	54.4	88.3	11.1	41
11. Bhiaon	208	99,294	65.7	48.8	4.9	23
12. Jalalpur	289	1,29,006	93.8	119.5	9.3	41
13. Akbarpur	402	1,61,371	87.8	150.3	9.3	37
14. Kathari	256	93,052	75.9	67.9	7.3	27
15. Tanda	293	1,16,145	75.1	89.2	7.7	30
16. Jahangirganj	189	90,298	73.8	60.6	6.7	32
17. Baskhari	201	92,652	90.6	94.6	10.2	47
18. Ram Nagar	216	99,973	90.5	108.3	10.8	50
Urban	66	1,84,083	N. A.	81.0	4.4	123
District Faizabad	4353.5	19,27,281	78.9	1,740 3	9.6	40

N.A. = Not Available.

and 'pucca' roads together for a population of ten thousand. Table II exhibits that Bhiaon development unit is the most backward in respect of road density while Akbarpur, Sohawal and Masodha blocks are of higher density. The Bombay Plan of the Indian Road Congress suggests a road length of 32 Km. per 100 Km². of geographical area and 200 km. for every one lakh population as the standard (Thaha, 1977).

As regards the district Faizabad, it has a road density of 40 kms. per 100 km². of area and 66 Kms. per one lakh population. Thus, if the position of the district regarding road density can be treated as satisfactory on one hand, it is just reverse on the other side. As the utilization of roads is directly concerned to the population and not to geographical area, the road network should be expanded accordingly.

Capacity and Utilization Level of Roads

In the analysis of transport development, the measurement of road's capacity and utilization is another important aspect.

Table III

Capacity Norm for Various Types of Roads.

Sl No.	Road types	Capacity in Passenger Car Uniis (PCUS)
1.	Single Lane Roads	
	(i) Ordinary single lane roads with usual earth shoulders	1,000 per day
	(ii) Single lane roads with improved shoulders of 5 feet (1.5 m) width on either side	3,000 per day
2.	Double Lane Roads	
	Under ideal conditions, 12 feet (3.6 m) lanes 6 feet (1.8 m) minimum clearance to lateral obstructions, staple, well-maintained shoulders, adequate sight distances.	10,000 per day

*Obtained from NICD, Hyderabad.

Hence in the present study, road-capacity has been measured in terms of the maximum number of vehicles that can pass through a given point on a road way in a single day without any unreasonable traffic delay. since the capacity depends upon several factors such as speed, composition of vehicles and width of road etc. it is rather difficult to have a set of norms which will establish the capacity values. The capacities of various types of roads suggested by the 'Joint Technical Group for Transport Planning Commission' are given in table III.

In the absence of any better standard for the estimation of roads' capacity in the region, the norms presented in table III are adopted and the capacity of various road-sections was computed accordingly (Table V).

Apart from the factors which affect the road capacity there is a question of the unit in which it is to be measured. The unit in common use for the purpose is the 'Passenger Car Unit' (O C U). The equivalent values of various types of vehicles can be seen in table IV.

All weather-proof roads have great importance from the viewpoint of traffic and goods movement. Hence, only the major roads have been considered in the present study for the purpose of transport planning. In the absence of required data to work out the level of utilization of roads, traffic surveys on major road-sections were couducted at two times; one at the time of maximum movement i. e. in summer season and the other in the rainy season at the time of minimum movement of traffic and goods.

The trvavel origin and destination survey was conducted for 20 hours. Thus the average traffic volume per day was worked out for every major road section separately. Again, traffic volumes were converted into PCUs and thus, utilization level of each road section was computed (Table V). This exhibits the maximum traffic congestions on N. H. 28, S. H. 9, S. H. 30 and S. H. 5 because of their connections with higher order centres within and beyond the district.

It is interersting to note that the level of utilization of any road section did not reveal uniformity throughout its length. It

Table IV

Equivalents for Various Types of Vehicles in Passenger Car Units

Types of Vehicles	Equivalent PCUS
1. Motor Cars, Station Wagons and Pick-up Vans	1
2. Motor-Cycles, Scooters and three wheelers	1
3. Buses (4 and 6 Wheelers)	3
4. Lories	3
5. Tractors, Tractor-troilor Combinations	3
6. Bullock Carts,	6
7. Ekka and Tongas	3
8. Cycles	0.5

Source : Director General, Road Development, Govt. of India, New Delhi.

is also noteworthy that the roads connecting lower order of the growth centres particularly in the eastern half of the district are under-utilized in respect of their capacities.

The road section of N. H. 28 lying between Faizabad and Ayodhya is over-utilized due to passing of intra-urban and regional vehicles through this. However, the volumes of traffic and level of road utilization are directly governed by the width of roads, types and number of vehicles passing through them. It is noteworthy that no road section is over-utilized except those lying in the urban areas.

Composition of Traffic Volumes

The composition of vehicles within the regrion can be analysed from the table V. In general, auto-cycles hold first place, tractors and goods lorries both together stand second, and motor cars and other pick-up vans come at the third place. Transportation system of interior rural is still undeveloped where the main modes of transportation are only bullock-carts and cycles by which farmers transport their commodities.

According to the statistics obtained from the Regional Transport Office, auto-cycles alone constituted 59.4 per cent of the total vehicles during 1975-76 while motor cars constituted 7.5 per cent buses 4.9, trucks 6.2 tractors 15.6 and others 6.4 per cent only.

The proposal for the improvement of the transport network, however, has to be based on the anticipated growth of traffic volumes in future which depends upon several factors like growth and distribution of population, location of industries and other socio-economic functions. The overall demand for vehicles is greatly influenced by the size and location of population, their personal income, social habits, freight of transportation and quantity of agricultural produce for marketing etc (Thaha. 1977). In the absence of required data on passenger and goods traffic for a number of years, it was very much difficult to estimate and project the growth of traffic volumes.

However, for the proper estimation of future traffic volumes, the rate of increase of registered vehicles in the region during 1970-75 has been taken into account in addition to the people's travel behaviour and trends of population growth. And it is anticipated that on these counts N. H. 28,

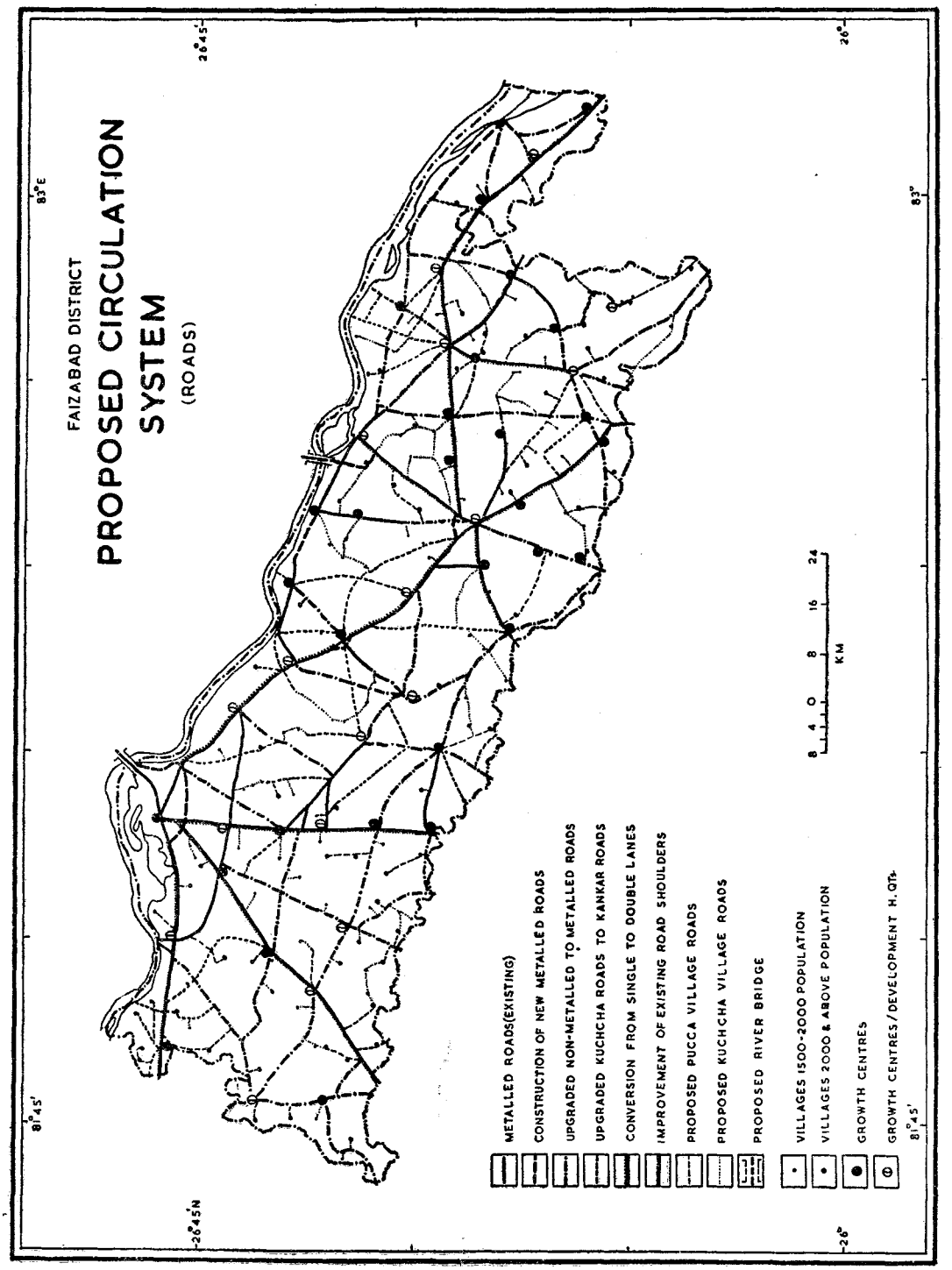
FAIZABAD DISTRICT
PROPOSED CIRCULATION SYSTEM
(ROADS)
81°45'
83°E
26°45'
26°
26°45'N
METALLED ROADS(EXISTING)
CONSTRUCTION OF NEW METALLED ROADS
UPGRADED NON-METALLED TO METALLED ROADS
UPGRADED KUCHCHA ROADS TO KANKAR ROADS
CONVERSION FROM SINGLE TO DOUBLE LANES
IMPROVEMENT OF EXISTING ROAD SHOULDERS
PROPOSED PUCCA VILLAGE ROADS
PROPOSED KUCHCHA VILLAGE ROADS
PROPOSED RIVER BRIDGE
VILLAGES 1500-2000 POPULATION
VILLAGES 2000 & ABOVE POPULATION
GROWTH CENTRES
GROWTH CENTRES/DEVELOPMENT H. QTS.
8 4 0 8 16 24
KM

Fig. 2

Table V

Traffic Volumes with Capacity and Utilization Level of Major Road-Sections in Faizabad Distict, 1978

Sl. No.	Name of the road sections	Traffic Volmes*					Total traffic Volume in PCUs	Road Capacity in PCUs per day	Level of road utilization in %
		Buses	Trucks, Tractors & Lorries	Motor Cars & Pick-up Vans	Auto-Cycles	Ekka and Tongas			
1	2	3	4	5	6	7	8	9	10
1.	Faizabad – Sohawal	97	323	130	568	34	2,260	3,000	75.33
2.	Sohawal – Baragaon	77	271	64	168	N. A.	1,266	3,000	42.20
3.	Faizabad – Katra	920	377	119	250	65	2,522	3,000	84.07
4.	Faizabad – Bikapur	118	287	180	638	67	2,234	3,000	74.47
5.	Bikapur – Chaurebazar	96	225	20	135	N. A.	1,118	3,000	37.27
6.	Faizabad – Milkipur	127	191	227	454	8	1,659	3,000	55.30
7.	Faizabad – Milkipur	26	50	27	298	14	621	1,000	62.10
8.	Milkipur – Haliapur	26	30	11	103	N. A.	282	1,000	28.20
9.	Akbarpur – Tanda	44	74	114	127	22	661	3,000	22.03
10.	Akbar – Baskhari	69	47	50	118	30	603	3,000	20.10
11.	Akbarpur – Malipur	31	72	48	73	7	453	3,000	15.10
12.	Mailpur – Bilwai	29	50	18	11	N. A.	266	3,000	8.87
13.	Akbarpur – Dostpur	13	32	26	28	49	336	1,000	33.60
14.	Akbarpur – Maharua	18	13	13	7	45	248	1,000	24.80
15.	Baskhari – Jalalpur	27	32	52	56	38	333	1,000	33 30
16.	Baskhari – Jahangirganj	20	29	32	44	27	307	1,000	30.70
17.	Baskhari – Neori	48	47	31	64	21	433	3,000	14.43
18.	Jahangirganj – Rajesultanpur	9	16	28	39	29	220	1,000	22.0

*Traffic Volume includes both UP and DN traffic

N. A. = Not Available.

Table VI

Proposed Reformation and Upgradation of Major Road Sections in Faizabad District 1978–95

Sl. No.	Name of the road sections	Road length in kms,	Road Quality		
			Existing	Proposed	
				1983	1995
1	2	3	4	5	6
1.	Faizabad – Shoawal	15.0	Motorable	Extension in paved width	Conversion from single to dobule lanes
2.	Sohawal – Baragaon	19.3	Motorable	Improvement in road sides	Extension in paved width
3.	Faizabad – Bikapur	21.5	Motorable	Extension in paved width	Conversion from single to double lanes
4.	Bikapur – Chaurebazar	17.3	Motorable	Improvement in road rides	Extension in paved width
5.	Faizabad – Milkipur	34.0	Motorable	Improvement in road sides	Extension in paved width
6.	Milkipur – Haliapur	10.5	Motorable	Improvement in road sides	Extension in paved width
7.	Faizabad – Akbarpur	59.0	Motorable	Extension in paved width	Conversion from single to double lanes
8.	Ayodhya – Katra	2.0	Motorable	Extension in paved width	Conversion from single to double lanes
9.	Akbarpur – Tanda	21.0	Motorable	Extension in paved width	Conversion from single to double loues
10.	Akbarpur – Baskhari	25.0	Motorable	Improvement in road sides	Extension in paved width
11.	Akbarpur – Malipur	18.5	Motorable	Improvement in road sides	Extension in paved width
12.	Malipur – Bilwai	12.5	Motorable	Improvement in road sides	Extension in paved width
13.	Akbarpur – Dostpur	16.0	Kankar	Kanker to metalled road	Improvement and Extension in paved with
14.	Akbarpur – Maharua	16.5	Motorable	Improvement in road sides	Extension in paved with
15.	Baskhari – Jalalpur	16.0	Motorable	Improvement in road sides	Extension in paved width
16.	Baskhari – Neori	14.0	Motorable	Improvement in road sides	Extension in paved width
17.	Baskhari – Jahangirganj	21.0	Motorable	Improvement in road sides	Extension in paved width
18.	Jahangirganj – Rajesultanpur	16.4	Motorable	Improvement in road sides	Extension in paved width

S. H. 9, and S. H. 30 would be over-utilized in coming future.

Nature and Problems of Road Transportation

In the present system of road development, the administrative control and management comes under 'Zila Parishad' and 'Public Works Department.' In such decantralized management, it is rather difficult to further the road development programme in any integrated manner. Some of the road characteristics that have been observed, are as follows:

1. The rural road constructions get destroyed or damaged during the rainy season because of improper and inadequate attentions paid to them.

2. Due to highly damaged roads, numerous spot holes, gullies and muds can be seen extensively on every non-motorable road during rainy season.Similarly, in the summer season dusts are seen frequently in a depth of half to one foot. Thus both these seasons create hindrances explicitly in the movement of vehicles and people.

3. The motorable roads are also not uniform throughout the way in terms of their surface quality, width and pavement both in thg urban and rural areas.

As observed so far, the region is suffering from various accute transportation problems such as :

1. The road length is far from satisfactory and it is quite inadequate to make the whole area of the district accessible.

2. Road-sections lying in urban areas hamper the free and uninterrupted flow of vehicles and as such, the optimum speed is not achieved.

3. In certain cases, the existing closed system of roads limits the accessibility and increases the distance.

Design Criteria for Road Connectivity

In order to achieve the overall development of the district and to root out the deficiences in existing transportation system, a 17 year- transrort planning programme has been worked out and proposed to be implemented on two phases of 5 and 15 years duration i. e. by 1983 and 1995. (taking 1978 as be base year). The construction of new feeder and link roads has to be based on the size of population of the settlements and the functions they serve. The following criteria are adopted for road development programme in the study region.

1. Villages having a population of 1,500 and above should have access to the nearest all weather motorable road at least by a 'Kuchcha' village road and ultimately to the nearest growth centre.

2. Villages with a population size of 2,000 and above should be linked to the nearest growth centre by allweather motorable road.

3. All growth centres identified and proposed should be connccted by 'pucca' road with the concerned development block headquarters as well as with the centres of the next higher order.

4. Finally, all settlemeuts should be accessible within 20-25 minutes from any none-motorable road and within 40-50 minutes from motorable road.

5. The schematic linkage system of road network should be such as to ensure free and uninterrupted flow of traffic especially in the busy sections of urban areas to provide safety for human life.

In the, Fifth Plan, under 'minimum needs programme' standard was fixed to link up villages with a population of 1,500 and above by village roads whereas in the first draft of Sixth-Five-Year Plan, the limit was further reduced to linking villages even with a population size of 1,000 and above. However, inspite of the standards set out by the original draft Sixth Plan being more dynamic, they could not be taken for the present study. The reason is quite simple, the Fifth Plan proposals could not be executed and as such it is only practical to adopt them first.

The stated policies should be given concrete shape with due considerations that no area in the district remains inaccessible. Moreover, the roads should form an open

and unhindered transportation system in the region minimizing the distance and offering the choice of routes.

Schematic Linkage Plan

The schematic linkage plan has been prepared with the proposals for new roads as well as for the qualitative improvements of various road-sections (Fig. 2, Table VI).

New Roads

Motorable and non-motorable roads are proposed wherever such links are eisentially required On the basis of accessibility norms, the requirement of village roads by 1995 would be about 491 Km. of which 249 Km. would be non-metalled. Three all weather-proof by pass sections are also recommended to be constructed by 1983. The total length of such by-pass roads is worked out at about 27 Km. out of which 18 Km. are related only to Faizabad—Ayodhya, 5 Km. to Gosainganj and 4 Km. to Akbarpur.

Upgradation and Reformation

The district has mainly poor roads i. e., non-metalled roads which constitute about 66 per cent of the total road length. In such a condition, it is necessary that there should be qualitative improvements on a large-scale in the existing road network system for which the following suggestions are made :

1. The total length of ' Kuchcha ' roads in the district is reported to be 1031.6 Km. of which 25 per cent is recommended to be upgraded into ' Pucca ' roads by 1983 and the rest by the end of 1995.

2. The total length of ' Kankar' and macadam roads in the district is about 180 Kms. out of which 50 per cent is recommended for upgradation into all-weather motorable roads up to 1983 and the remaining by the end of the second phase.

3. The road sections of Faizabad-Sohawal Faizabad-Katra, Faizabad-Bikapur, Faizabad-Akbarpur etc. have been proposed to be widened considerably to cope with the situation from time to time.

Further, the proposal for two bridge constructions has also been made by 1995-one on the river Tons at Akbarpur and the other on Ghaghra river near Mahripur at a distance of 5 Km. to the west of Tanda.

The development of rural road network can be accelerated easily if our village Panchayats realise the spirit of such development programmes. They can co-operate in making a number of feeder roads with ' Shramdans ' of village folk. Throughout the recommendations the practicability and feasibility of proposals were always kept in mind so that there would be least problems in their timely implementations.

References

Haig, R. M. (1927) : ' Major Economic Factors in Metropolitan Growth and Arrangement -Regional Plan of New York and Its Environs ', New York. p. 38.

Roy, P. and *Patel, B. R.* (Eds.) (1977) : *Mannual for Block Level Planning* ', Macmillan, p. 82.

Sen, L. K. et al. (1975) : Growth Centres in Raichur District-An Integrated Rural Development Plan' *NICD*, Hyderabad, p.163.

Thaha A. (1977) : ' Planning for Transporation in An Integrated Area Development Programme', Cyclostyled Paper, *10th Course on IRD, NICD*, Hyderabad, Sept. -Oct. 1977, p. 2.

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